

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of February 13, 2007 is respectfully requested.

By this Amendment, claims 1-4 have been amended and are currently pending in the application. No new matter has been added by these amendments.

The entire specification and abstract have been reviewed and revised. Due to the number of revisions, the amendments to the specification and abstract have been incorporated into the attached substitute specification and abstract. For the Examiner's benefit, a marked-up copy of the specification and abstract indicating the changes made thereto is also enclosed. No new matter has been added by the revisions. Entry of the substitute specification is thus respectfully requested.

On page 2 of the Office Action, the Examiner objected to claims 3-4 for containing informalities. In particular, the Examiner noted that the elements Zn, Si and Mn are within brackets, and indicated that the brackets should be removed from the claims. In order to address the Examiner's objections, claims 3-4 have been amended so as to remove the brackets. Therefore, it is respectfully submitted that the Examiner's objections are not applicable to the amended claims.

On pages 2-3 of the Office Action, the Examiner provisionally rejected claims 1-2 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2 of co-pending Application No. 10/536,362. In this regard, it is noted that claims 1-2 have been cancelled in the co-pending Application No.10/536,362 in an amendment submitted on May 14, 2007. Therefore, it is respectfully submitted that the double-patenting rejection has been rendered moot in view of the cancellation of claims 1-2 in the co-pending application.

On pages 4-5 of the Office Action, the Examiner rejected claims 1-2 under 35 U.S.C. § 102(e) as being anticipated by Nishimura et al. (US 7,037,156). For the reasons discussed below, it is respectfully submitted that amended claims 1-2 are clearly patentable over the prior art of record.

Amended independent claim 1 recites a plasma display device comprising a plasma display panel in which a plurality of discharge cells are arranged, and in which a phosphor layer

in a color corresponding to each discharge cell is disposed. Claim 1 also recites that the phosphor layer has a green phosphor layer including a green phosphor made of $\text{Zn}_2\text{SiO}_4\text{:Mn}$, with *the green phosphor having an even density extending from a surface to an inside of the green phosphor*. In addition, claim 1 recites that the green phosphor has an element ratio of zinc to silicon of 2/1, which is a stoichiometric ratio, at a portion which includes a proximity of the surface of the green phosphor.

Amended independent claim 2 recites a plasma display device comprising a plasma display panel in which a plurality of discharge cells are arranged, and in which a phosphor layer in a color corresponding to each discharge cell is disposed. Claim 1 also recites that the phosphor layer has a green phosphor layer including a green phosphor made of $\text{Zn}_2\text{SiO}_4\text{:Mn}$, with *the green phosphor having an even density extending from a surface to an inside of the green phosphor*. In addition, claim 2 recites that the green phosphor has an element ratio of zinc to silicon equal to a stoichiometric ratio at a portion which includes a proximity of the surface of the green phosphor, and that the green phosphor is positively charged or zero-charged.

Nishimura discloses a method of manufacturing a plasma display panel in which impurity gas is adsorbed by phosphor layers in a step of sealing the periphery of substrates, so that the impurity gas is released into discharge gas while a panel is lit. However, Nishimura does not disclose a green phosphor layer that includes a green phosphor made of $\text{Zn}_2\text{SiO}_4\text{:Mn}$, with *the green phosphor having an even density extending from a surface to an inside of the green phosphor*, as required by amended independent claims 1 and 2. Rather, Nishimura only discloses that green phosphor materials (zinc oxide, silicon oxide and manganese oxide) are mixed and fired to provide a green phosphor (column 4, lines 23-30), and does not disclose a green phosphor having an even density extending from a surface to an inside of the green phosphor.

In addition, Nishimura also does not disclose a green phosphor which has an element ratio of zinc to silicon of 2/1, which is a stoichiometric ratio, at a portion which includes a proximity of the surface of the green phosphor, as required by amended independent claim 1, or a green phosphor which has an element ratio of zinc to silicon equal to a stoichiometric ratio at a portion which includes a proximity of the surface of the green phosphor, as required by amended independent claim 2.

In this regard, it is noted that on pages 4-5 of the Office Action, the Examiner indicates that column 4, lines 23-25 of Nishimura disclose the element ratio of the green phosphor as recited in claims 1 and 2. However, the cited portion of Nishimura discloses that the zinc oxide and silicon oxide are “formulated” in an atomic ratio of 2:1 *before* being mixed with manganese oxide and being fired to form the green phosphor. One of ordinary skill in the art would recognize that the initial ratio of zinc and silicon will not be maintained during the sintering at a high temperature. As stated on page 5, line 22 to page 6, line 3 of the original specification, a stoichiometric ratio of zinc and silicon fired at a high temperature will result in a disproportionate amount of silicon on the surface of the phosphor due to the high vapor pressure of the zinc oxide at the sintering temperature. Therefore, Nishimura does not disclose *a green phosphor* having a stoichiometric ratio of zinc and silicon because the initial stoichiometric ratio (*i.e.*, prior to forming the green phosphor) of the zinc oxide and silicon oxide in Nishimura will not produce a stoichiometric ratio in the green phosphor.

Therefore, it is respectfully submitted that amended claims 1 and 2 are not anticipated by the Nishimura reference.

On page 5 of the Office Action, the Examiner indicated that claims 3-4 would be allowable if amended so as to overcome the objections described above. As indicated above, claims 3-4 have been amended to correct the informalities identified by the Examiner. Therefore, it is respectfully submitted that claims 3-4, as amended, are clearly in condition for allowance for the reasons stated on page 5 of the Office Action.

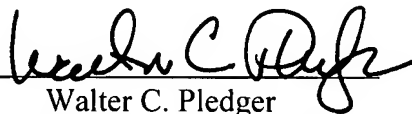
Therefore, it is respectfully submitted that independent claims 1-4 are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice to that effect is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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